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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,289	02/19/2002	Ratnam Sooriyakumaran	YOR920000693US2	7983

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EXAMINER

GILLIAM, BARBARA LEE

ART UNIT PAPER NUMBER

1752

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/079,289		SOORIYAKUMARAN ET AL.	
	Examiner		Art Unit	
	Barbara L. Gilliam		1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 67,71,73,75,76,79-81,84-110 and 125-159 is/are pending in the application.
- 4a) Of the above claim(s) 111-124 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 67,71,73,75,76,79-81,84-110 and 125-159 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/27/03 & 2/19/02</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of 67-110 in the reply filed on October 23, 2003 is acknowledged. Claims 68-70, 72, 74, 77-78, 82-83 were canceled by Applicant and new claims 125-159 were added in said response.
2. Claims 111-124 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.
3. Therefore claims 67, 71, 73, 75-76, 79-81, 84-110, 125-159 are currently pending.

(Applicant indicated in the response of October 23, 2003 that claims 111-118 have been canceled however the listing of claims indicate that the claims are withdrawn.)

Claim Rejections - 35 USC § 112

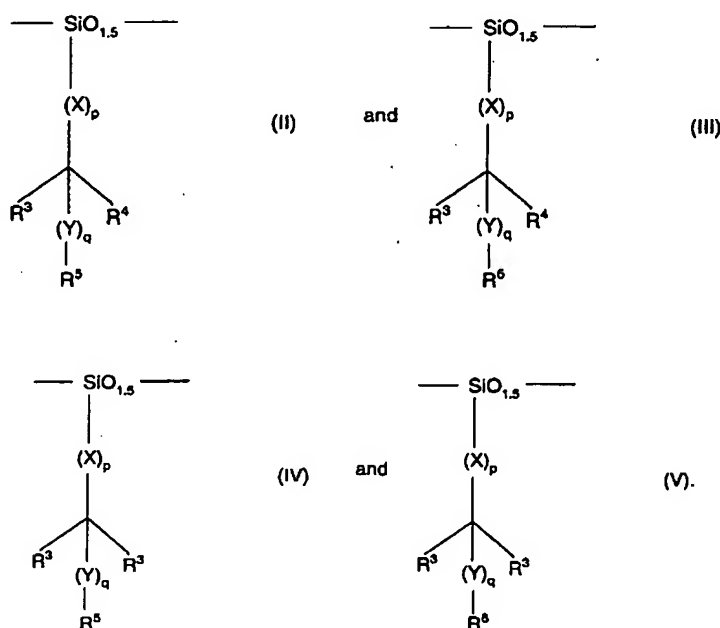
4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 124-159 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Double Patenting

6. Claims 67, 71, 73, 75-76, 79-81, 84-110, 125-159 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,939,664 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because Huang et al. claim a resist composition comprising a radiation-sensitive acid generator and an acid sensitive imaging polymer comprising a silsesquioxane backbone and a solubility inhibiting pendant acid-labile moiety wherein the imaging polymer comprises a combination of monomeric units (II) and (III), (III) and (IV) or (II) and (V):



The substituents are as defined in the claims. Specifically, R³, R⁴, X and Y can be a halogen atom, a fluorinated linear alkyl, a fluorinated branched alkyl, a fluorocycloalkyl, a fluoroalkyl.

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Claim Rejections - 35 USC § 102

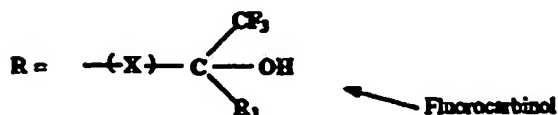
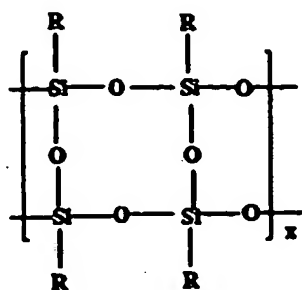
7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 67, 71, 73, 75-76, 79-81, 84-110, 125-159 are rejected under 35 U.S.C. 102(b) as being anticipated by Sooriyakumaran et al. ("Silicon-containing Resists for 157 nm Applications," *SPIE's 26TH Annual International Symposium and Education Program on Microlithography* 4345-35:266.).

a. The resists of Sooriyakumaran et al. are comprised of fluorocarbonol substituted silsesquioxane polymers which anticipate the presently claimed polymers, specifically as shown in Figure 1

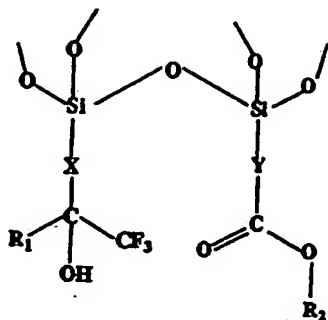


**X = Alkyl, cycloalkyl or aryl group
optionally substituted with fluorine**

R₁ = H, alkyl or fluoroalkyl group

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and in Figure 3



X, Y = Alkyl, cycloalkyl or aryl
optionally substituted with fluorine

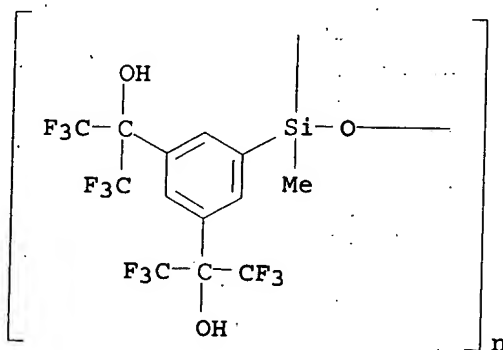
R₁ = H, alkyl or fluoroalkyl

R₂ = *tert*-Butyl, 2-trimethylsilylethyl or
any other acid-labile group

. The resists further comprise a strong acid photoacid generator.

9. Claims 67, 71, 73, 75-76, 79-81, 84-97, 125-126 rejected under 35 U.S.C. 102(b) as being anticipated by Houser et al. ("Sorbent Coatings for the Detection of Explosives Vapor: Applications with Chemical Sensors," *Proceedings of SPIE-The International Society for Optical Engineering* (1999), 3710, PT. 1, *Detection and Remediation Technologies for Mines and Minelike Targets IV*, 394-401).

a. The chemoselective polymers of Houser et al. meet the present limitation for the fluorinated silsesquioxane polymers. Specifically, the poly[oxy[[3,5-bis[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]phenyl]methylsilylene]] of the following structure



Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. In US 2004/0229159 A1, Kanagasabapathy et al. teach fluorinated Si-polymers and photoresists comprising the same (abstract) which are similar to the polymers of the instant application.

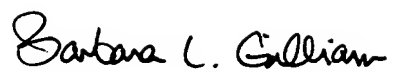
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara L. Gilliam whose telephone number is 571-272-1330. The examiner can normally be reached on Monday through Thursday, 8:00 AM - 5:30 PM.

a. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

b. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink that reads "Barbara L. Gilliam". The signature is written in a cursive style with a large, stylized 'B' and 'G'.

Barbara L. Gilliam
Primary Examiner
Art Unit 1752

bg
December 27, 2005